

PATENT APPLICATION TRANSMITTAL LETTER

(Large Entity)

Docket No.

INTL-0476-US (P10023)

TO THE ASSISTANT COMMISSIONER FOR PATENTS

Transmitted herewith for filing under 35 U.S.C. 111 and 37 C.F.R. 1.53 is the patent application of:

OLEG B. RASHKOVSKIY

For: STORING ADVERTISEMENTS

Enclosed are:


- ☒ Certificate of Mailing with Express Mail Mailing Label No. EL669041669US
- ☒ Four (4) sheets of drawings.
- ☐ A certified copy of a application.
- ☒ Declaration ☒ Signed. ☐ Unsigned.
- ☒ Power of Attorney
- ☐ Information Disclosure Statement
- ☐ Preliminary Amendment
- ☒ Other: Recordation Form Cover Sheet, Assignment and check for \$40.

CLAIMS AS FILED

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	42	- 20 =	22	x \$18.00	\$396.00
Indep. Claims	6	- 3 =	3	x \$80.00	\$240.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
BASIC FEE					\$710.00
TOTAL FILING FEE					\$1,346.00

- ☒ A check in the amount of \$1,346.00 to cover the filing fee is enclosed.
- ☒ The Commissioner is hereby authorized to charge and credit Deposit Account No. 20-1504. as described below. A duplicate copy of this sheet is enclosed.
- ☐ Charge the amount of as filing fee.
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- ☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

Dated: October 17, 2000

  
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APPLICATION

FOR

UNITED STATES LETTERS PATENT

TITLE:           STORING ADVERTISEMENTS

INVENTORS:   OLEG B. RASHKOVSKIY

Express Mail No. EL669041669US

Date: October 17, 2000

## STORING ADVERTISEMENTS

### Background

This invention relates generally to systems that record audio or visual content for subsequent replay.

5        Digital recording devices are available which record audio/visual content for subsequent replay from random access memories. Such recording devices can pause ongoing play of content while continuing to record incoming content. Digital recording devices, using random access  
10        memories, are more versatile than videocassette recorders that use tape or serial memories. Thus, digital recording devices are becoming increasingly popular with consumers.

      Generally, when the consumer records a television program that includes advertisements, the advertisements  
15        are recorded together with the program content. When the recorded content is replayed, the advertisements may be outdated. Thus, the replay of outdated advertisements may seem odd. Moreover, from the advertiser's point of view, the value of repeated play of the content, including the  
20        advertisements, may be reduced.

      Thus, there is a need for improved techniques for storing advertisements in digital recording devices.

### Brief Description of the Drawings

Figure 1 is a block diagram showing one embodiment of the present invention;

Figure 2 is a flow chart for software that enables  
5 commercials to be digitally recorded in accordance with one embodiment of the present invention;

Figure 3 is a flow chart for software that allows the playback of recorded content including commercials in accordance with one embodiment of the present invention;  
10 and

Figure 4 is a flow chart for software that allows recorded commercials to be updated in accordance with one embodiment of the present invention.

### Detailed Description

15 Referring to Figure 1, a processor-based system 10 may be capable of digitally recording and playing back audio or video content. The recorded content may include radio broadcasts, television broadcasts, and content distributed over the Internet as examples. The television programming  
20 may be distributed in a variety of ways including over airwave broadcasts, via cable distribution and over satellite distribution networks.

The processor-based system 10 may be a desktop computer, a set-top box, or a processor-based appliance to  
25 name a few examples. The system 10 may include a processor 12 coupled to an accelerated graphics port (AGP) chipset 14

in one embodiment of the present invention. A graphics accelerator 18 is coupled to the chipset 14 via a port 16. A system memory 8 is also coupled to the chipset 14. In an embodiment in which the processor-based system 10 is a set-top box, the graphics accelerator 18 may be coupled to a television receiver 20.

The chipset 14 may be coupled to a bus 22. The bus 22 may couple a television tuner card 24 that includes an antenna 26 in one embodiment. Thus, in an embodiment wherein which an airwave broadcast is captured by the tuner card 24, the airwave broadcast may be provided to a storage 30, such as a hard disk drive, via a bridge 28. The storage 30 may store the captured television in a randomly accessible fashion. The storage 30 may also store software programs 50, 70 and 80.

The bridge 28 couples the bus 22 to the bus 32. The bus 32, in one embodiment, may couple to a serial input/output (SIO) device 34. The device 34 may couple to peripheral devices such as a mouse 36 and a keyboard 38. The bus 32 may also be coupled to a basic input/output system (BIOS) storage 42. While one exemplary processor-based system 10 is illustrated in Figure 1, the present invention may be implemented on a variety of other processor-based systems.

The software 50, stored on the storage 30, begins by receiving and compressing audio and/or video content as

indicated in block 52. The content may be received over an  
airwave broadcast such as a radio broadcast, a television  
broadcast or the like. It may also be received over an  
appropriate connection such as an Internet connection, a  
5 cable connection or a satellite receiver.

In the course of receiving and compressing the  
content, a commercial may be identified within the content  
as indicated in block 54. A variety of techniques may be  
utilized to identify the commercial. In one case, a  
10 watermark may be included within commercials. The  
watermark may be imperceptible to users. However, the  
watermark may be detected and used as a trigger to identify  
the location within the content of a commercial.

In another embodiment, the commercial may identified  
15 by looking for auxiliary information included in the  
television broadcast. For example, closed captioning data  
may be scanned to locate particular keywords that are known  
to correspond to particular advertisements.

As another example, a television advertisement  
20 schedule may be utilized to determine, based on the  
currently tuned channel, local time zone, and time of day  
when a commercial should be expected. Similarly, in  
enhanced or interactive television distribution systems,  
for example according to the Advanced Television  
25 Enhancement Forum (ATVEF) Specification, announcements may  
be provided which may aid in detecting the presence of a

commercial. See ATVEF Enhanced Content Specification (1998).

When a commercial is identified within the received content, a check at diamond 56 determines whether the commercial that is being received is one that has been stored before. If not, in which case the commercial is considered a "new" commercial, the commercial may be recorded as indicated in block 58.

In one embodiment of the present invention, the commercial may be recorded to a different memory or a different memory location than other content. This may facilitate accessing the commercial in accordance with some embodiments of the present invention.

When the commercial is recorded, a marker may be inserted into the ongoing content record in order to identify the location to insert a commercial. In addition, a pointer may be provided to indicate where the commercial has been stored, when the commercial is stored in a different storage or in a different storage area than the rest of the content.

The new commercial may be identified by keywords or other information and added to a list of commercials that have previously been stored as indicated in block 60. In this way, a list of commercials may be utilized to determine whether any received commercial is one that has been received in the past. For example, the closed

captioning script associated with the first five or ten words of a commercial may be recorded and stored as a commercial list. Then, the next time a commercial is received, a check may determine whether the first five or  
5 ten words are identical to any commercial already on the commercial list.

Finally, the update instructions for a particular commercial may be stored as indicated in block 62. In enhanced or interactive transmissions, the update  
10 information may be broadcast as auxiliary information. In other cases, the update information may be encoded with the commercial. As still another alternative, the update information may be accessed from a database. For example, based on telltale words within the commercial, such as the  
15 first five or ten words, a database may be consulted to determine how frequently the particular commercial should be updated. As one example, the database may be accessed automatically over the Internet. Once the update instructions are obtained, they may be stored in  
20 association with an update database. For example, in accordance with one embodiment, at predetermined times, all of the stored commercials may be automatically updated in accordance with stored update instructions.

If the commercial is one that has previously been  
25 stored, the appropriate marker and pointer are stored in connection with the ongoing content in an embodiment in



which the commercials are stored in a separate storage from the content. In an embodiment in which the content and commercials are stored together, it may unnecessary to insert the marker and pointer into the stored content.

5 However, storing the commercials and the content separately may facilitate separate access to these materials. In addition, by storing the materials separately, it is possible to avoid re-storing commercials which have been previously stored. This may save storage space and  
10 increase the amount of programming that may be stored on a given system 10.

The play software 70, shown in Figure 3, also stored on the system 10 on the storage 30, in accordance with one embodiment of the present invention, enables content to be  
15 played back and stored commercials to be inserted into the content at the appropriate locations. Initially, the stored content is decompressed and played as indicated in block 72. If a marker is located when playing the stored content, as determined in diamond 74, a commercial to be  
20 inserted at the marker is automatically located and played as indicated in block 76. The commercial may be located using the pointer that points the software to the storage location where the commercial has been stored. If the content playback is completed, as determined in diamond 78,  
25 the flow ends. Otherwise, the flow recycles and the content continues to decompressed and played.

Turning finally to Figure 4, the update software 80, also stored on the storage 30, in accordance with one embodiment of the present invention, enables automatic updates of stored commercials. As previously indicated, 5 update instructions may be acquired and stored at the time when a commercial is first received. In other embodiments, update instructions may thereafter be obtained. For example, by identifying a commercial using codes or keywords as two examples, a system may automatically 10 determine from a database when the commercial should be updated. In one embodiment, each system 10 may include a database that has been compiled for each commercial in the acquired commercials list. The database may include the times when a commercial should be updated.

15 When the update time arrives for a given commercial as determined at diamond 82, a commercials list for a given system 10 may be acquired as indicated in block 84. The list may then be uploaded, as indicated in block 86, together with the pointers which point to the locations 20 where the information associated with the commercial is stored on the system 10. The uploading may occur from a client to a server over an appropriate connection such as an Internet connection.

The server may then provide the appropriate updates 25 for the client over an appropriate broadcast transport back to the client as indicated in block 88. A client may store

the replacements, as indicated in block 90, in the same locations previously utilized. If the server provides the same pointers that were used to originally store the outdated version of the commercial, the commercials may automatically be stored in the same locations where they were originally stored. In such case, when a marker is reached during content playback, the pointer associated with the marker may be utilized to obtain the commercial. Now, instead of obtaining the outdated commercial, an updated commercial may be received.

For example, a commercial for a given automobile dealer may advertise a Fourth of July sale. After the Fourth of July has already been passed, the automobile dealer may cause an updated version of its current commercial to be automatically utilized to replace the now outdated commercial. Thus, each time the user replays the stored content, the user may view the most current advertisement. This may improve the effectiveness of the advertising material.

In some embodiments of the present invention, a stored advertisement may be replaced with an updated advertisement. However, in other embodiments, the stored advertisement may be replaced with another advertisement that does not constitute an update. For example, a digital recording device may automatically replace recorded advertisements with other advertisements. In one

embodiment, the provider of the digital recording device may cause advertisements originally recorded with content to be subsequently replaced with advertisements sponsored or provided by the provider of the digital recording device. Thus, in some cases, the advertisements that were originally included with the content may be replaced by other advertisements. These other advertisements may generate revenue for a service provider or the provider of the digital recording device as two examples.

In one embodiment, at periodic intervals, the digital recording device could download a number of advertisements to be utilized to replace existing advertisements recorded with the content. Thereafter, the advertisements that were originally recorded with content could be replaced with new advertisements. In some cases, the replacing advertisements may be updates of existing advertisements. In other cases, the replacing advertisements may be totally new advertisements unrelated to the advertisements they replace.

While the present invention has been described with respect to a limited number of embodiments, those skilled in the art will appreciate numerous modifications and variations therefrom. It is intended that the appended claims cover all such modifications and variations as fall within the true spirit and scope of this present invention.

What is claimed is:

1           1.    A method comprising:  
2                    storing an advertisement for playback with  
3 content; and  
4                    automatically replacing said stored  
5 advertisement.

1           2.    The method of claim 1 wherein storing an  
2 advertisement for playback with content includes storing an  
3 advertisement in a separate memory location from said  
4 content.

1           3.    The method of claim 2 including providing a  
2 marker in said content to indicate where the advertisement  
3 should be inserted.

1           4.    The method of claim 3 including providing a  
2 pointer with said marker to locate the advertisement in  
3 memory.

1           5.    The method of claim 4 including playing back  
2 stored content, identifying said marker and accessing the  
3 advertisement using said pointer.

1           6.    The method of claim 1 wherein storing an  
2 advertisement includes determining whether an advertisement  
3 to be stored was previously stored.

1           7.    The method of claim 6 including maintaining a  
2 list of stored advertisements and comparing information  
3 about a new advertisement to information about  
4 advertisements listed on said advertisements list.

1           8.    The method of claim 7 including only storing an  
2 advertisement if it was not previously stored.

1           9.    The method of claim 1 wherein replacing said  
2 stored advertisement includes updating said stored  
3 advertisement.

1           10.   The method of claim 9 including obtaining  
2 information about when to update stored advertisements and  
3 automatically updating said stored advertisements in  
4 accordance with said information.

1           11.   The method of claim 9 including periodically,  
2 automatically updating said stored advertisements.

1           12.   An article comprising a medium storing  
2 instructions that enable a processor-based system to:  
3               store an advertisement for playback with content;  
4 and  
5               automatically replace said stored advertisement.

1        13. The article of claim 12 further storing  
2 instructions that enable the processor-based system to  
3 store an advertisement and content in separate memory  
4 locations.

1        14. The article of claim 13 further storing  
2 instructions that enable said processor-based system to  
3 provide a marker in said content to indicate where the  
4 advertisement should be inserted.

1        15. The article of claim 14 further storing  
2 instructions that enable said processor-based system to  
3 provide a pointer with said marker to locate the  
4 advertisement in memory.

1        16. The article of claim 15 further storing  
2 instructions that enable the processor-based system to  
3 playback stored content, identify said marker, and access  
4 the advertisement using said pointer.

1        17. The article of claim 12 further storing  
2 instructions that enable the processor-based system to  
3 determine whether an advertisement to be stored was  
4 previously stored.

1        18. The article of claim 17 further storing  
2 instructions that enable the processor-based system to  
3 maintain a list of stored advertisements and compare  
4 information about a new advertisement to information about  
5 advertisements listed on said advertisements list.

1        19. The article of claim 18 further storing  
2 instructions that enable the processor-based system to only  
3 store an advertisement if it was not previously stored.

1        20. The article of claim 12 further storing  
2 instructions that enable the processor-based system to  
3 automatically update said stored advertisement.

1        21. The article of claim 20 further storing  
2 instructions that enable the processor-based system to  
3 obtain information about when to update stored  
4 advertisements and automatically update said stored  
5 advertisements in accordance with said information.

1        22. The article of claim 20 further storing  
2 instructions that enable said processor-based system to  
3 periodically, automatically update said stored  
4 advertisement.



1           23. A system comprising:  
2               a processor-based device;  
3               a first random access storage, coupled to said  
4 processor-based device, to store content;  
5               a second random access storage, coupled to said  
6 processor-based device, to store an advertisement for  
7 playback with content; and  
8               a third random access storage, coupled to said  
9 processor-based device, to store instructions to enable  
10 said device to automatically replace said stored  
11 advertisement.

1           24. The system of claim 23 wherein said system is a  
2 set-top box.

1           25. The system of claim 23 wherein said first, second  
2 and third storages are part of the same memory.

1           26. The system of claim 23 wherein said third storage  
2 further stores instructions that enable said device to  
3 automatically provide a marker in said content to indicate  
4 where an advertisement should be inserted during playback  
5 of the content.

1           27. The system of claim 23 wherein said third storage  
2 further stores instructions that enable said device to

3 determine whether an advertisement to be stored was  
4 previously stored.

1 28. The system of claim 27 wherein said third storage  
2 stores instructions to enable said device to maintain a  
3 list of stored advertisements and compare information about  
4 a new advertisement to information about advertisements  
5 listed on said advertisements list.

1 29. The system of claim 28 wherein said device only  
2 stores advertisements that were not previously stored.

1 30. The system of claim 23 wherein said third storage  
2 stores instructions that enable said device to obtain  
3 information about when to update stored advertisements and  
4 automatically update said advertisements in accordance with  
5 the information.

1 31. The system of claim 23 wherein said third storage  
2 stores instructions that enable the device to automatically  
3 update said stored advertisement.

1 32. The system of claim 23 including a connection to  
2 a television distribution system.

1           33. A method comprising:  
2               storing an advertisement for playback with  
3 content; and  
4               determining whether an advertisement to be stored  
5 was previously stored.

1           34. The method of claim 33 including maintaining a  
2 list of stored advertisements and comparing information  
3 about a new advertisement to information about  
4 advertisements listed on said advertisements list.

1           35. The method of claim 33 including only storing an  
2 advertisement if it was not previously stored.

1           36. An article comprising a medium storing  
2 instructions that enable a processor-based system to:  
3               store an advertisement for playback with content;  
4 and  
5               determine whether an advertisement to be stored  
6 was previously stored.

1           37. The article of claim 36 further storing  
2 instructions that enable the processor-based system to  
3 maintain a list of stored advertisements and compare  
4 information about a new advertisement to information about  
5 advertisements listed on said advertisements list.

1        38. The article of claim 35 further storing  
2 instructions that enable the processor-based system to only  
3 store an advertisement if it was not previously stored.

1        39. A system comprising:  
2            a processor-based device;  
3            a first random access storage, coupled to said  
4 processor-based device, to store content;  
5            a second random access storage, coupled to said  
6 processor-based device, to store an advertisement for  
7 playback with content; and  
8            a third random access storage, coupled to said  
9 processor-based device, to store instructions to enable  
10 said device to automatically determine whether an  
11 advertisement to be stored was previously stored.

1        40. The system of claim 39 wherein said device only  
2 stores advertisements that were not previously stored.

1        41. The system of claim 40 wherein said third storage  
2 stores instructions that enable the processor-based device  
3 to maintain a list of stored advertisements and compare  
4 information about a new advertisement to information about  
5 advertisements listed on said advertisements list.

1           42. The system of claim 41 wherein said third storage  
2 further stores instructions that enable the processor-based  
3 device to only store an advertisement if it was not  
4 previously stored.

## STORING ADVERTISEMENTS

### Abstract of the Disclosure

Advertisements may be stored on a random access memory associated with a processor-based system. The  
5 advertisements may be recorded in the course of recording audio or video content such as television programming. Periodically (or on some other basis), the stored advertisements may be updated and replaced with current versions of the advertisements. In this way, when the  
10 content is replayed, the most current advertisements are played.

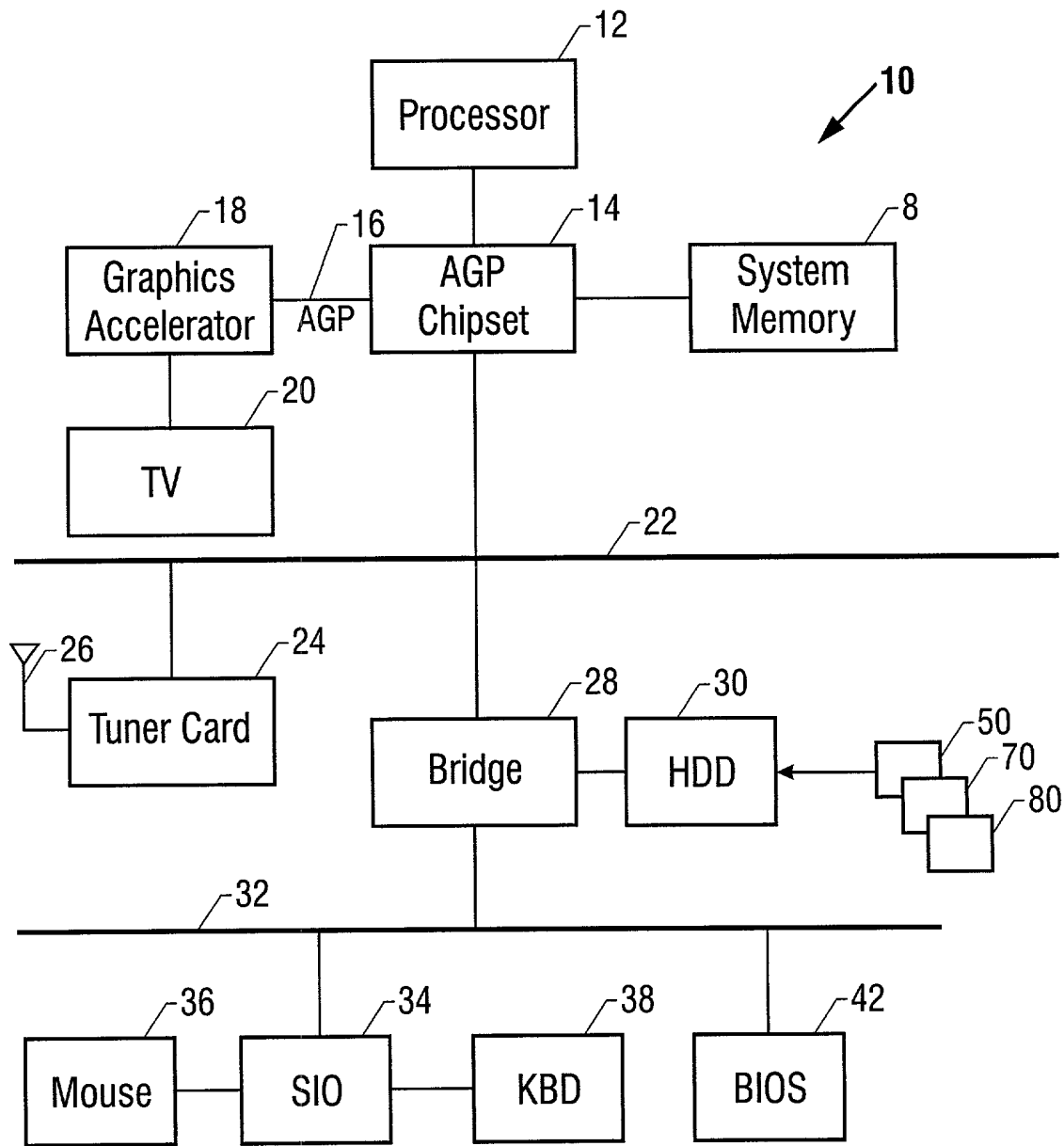


FIG. 1

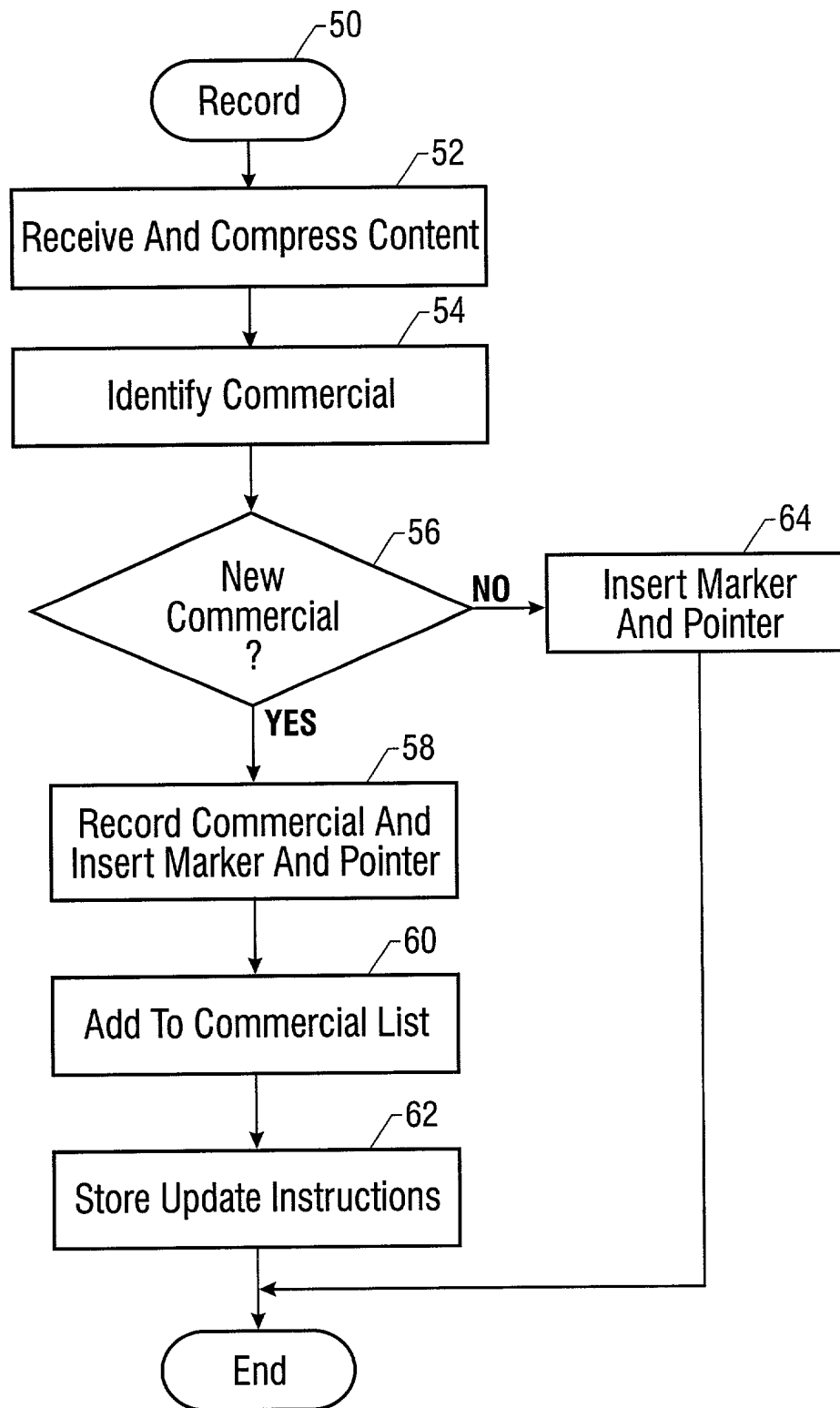
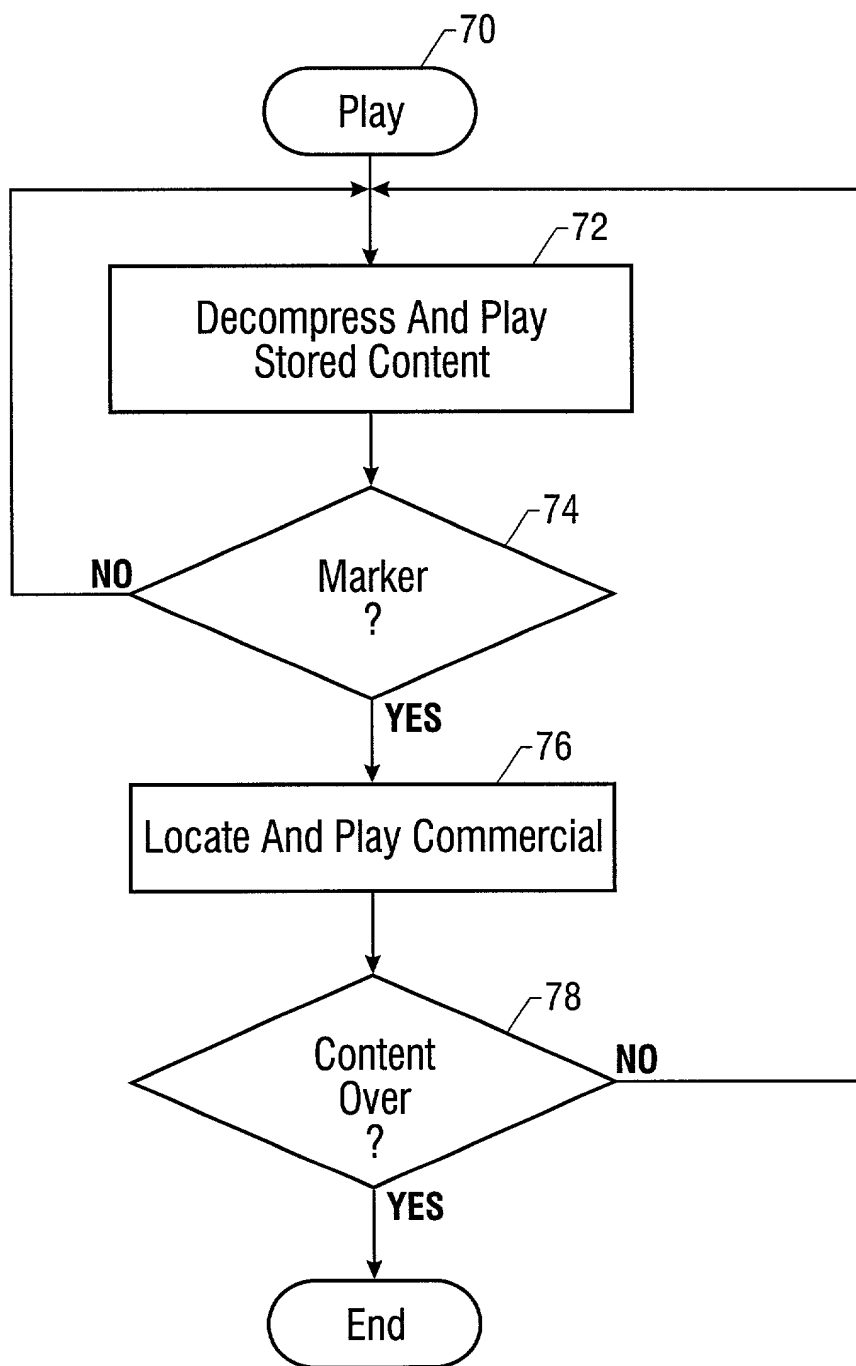
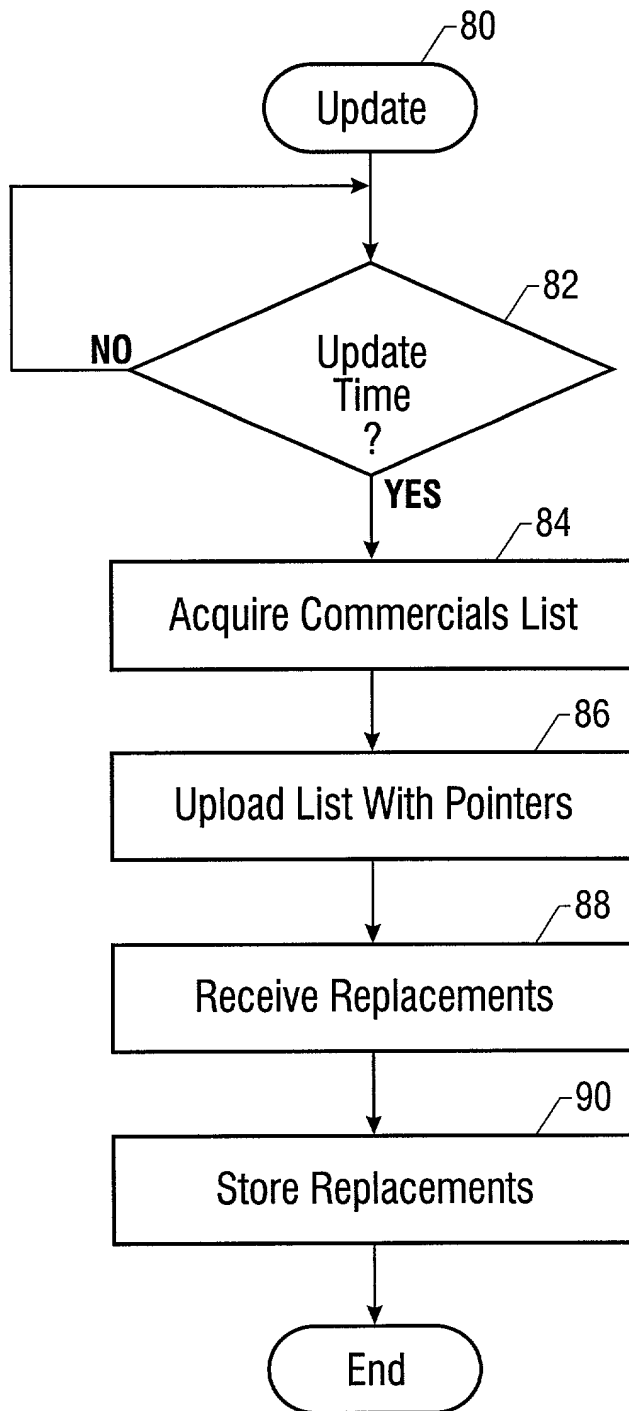


FIG. 2





**FIG. 3**



**FIG. 4**

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below, next to my name.

I believe I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

STORING ADVERTISEMENTS

the specification of which

X	is attached hereto.
	was filed on _____ as
	United States Application Number _____
	or PCT International Application Number _____
	and was amended on _____
	(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above. I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, and that the invention has not been patented or made the subject of an inventor's certificate Issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d), of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

<u>Prior Foreign Application(s):</u>			<u>Priority Claimed</u>	
Number	(Country)	(Day/Month/Year Filed)	Yes	No
Number	(Country)	(Day/Month/Year Filed)	Yes	No
Number	(Country)	(Day/Month/Year Filed)	Yes	No

I hereby claim the benefit under title 35, United States Code, Section 119(e) of the United States provisional application(s) listed below:

_____ (Application Number)	_____ (Filing Date)
_____ (Application Number)	_____ (Filing Date)

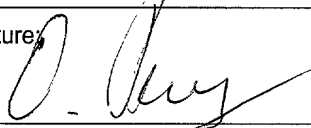
I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

_____ (Application Number)	_____ Filing Date	_____ (Status-patented, pending, abandoned)
_____ (Application Number)	_____ Filing Date	_____ (Status-patented, pending, abandoned)

I hereby appoint Timothy N. Trop, Reg. No. 28,994; Fred G. Pruner, Jr., Reg. No. 40,779 and Dan C. Hu, Reg. No. 40,025 my patent attorneys, of TROP, PRUNER & HU, P.C., with offices located at 8554 Katy Freeway, Ste. 100, Houston, TX 77024, telephone (713) 468-8880, and Mirho, Charles A.; Registration No. 41,199; Novakoski, Leo V.; Registration No. 37,198; Reynolds, Thomas C.; Registration No. 32,488; Seddon, Kenneth M.; Registration No. 43,105; Seeley, Mark; Registration No. 32,299; Skabrat, Steven P.; Registration No. 36,279; Skaist, Howard A.; Registration No. 36,008; Su, Gene I.; Registration No. 45,140; Wells, Calvin E.; Registration No. 43,256; Werner, Raymond J.; Registration No. 34,752; Winkle, Robert G.; Registration No. 37,474; and Young, Charles K.; Registration No. 39,435 my patent attorneys, of INTEL CORPORATION with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

Send correspondence to Timothy N. Trop, TROP, PRUNER & HU, P.C., 8554 Katy Freeway, Ste. 100, Houston, TX 77024 and direct telephone calls to Timothy N. Trop at (713) 468-8880.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Inventor's Signature:	Date:
Residence:	Citizenship:
Post Office Address:	
Full Name of Fourth/Joint Inventor:	
Inventor's Signature:	Date:
Residence:	Citizenship:
Post Office Address:	

INTL-0472-US (P10019)